

COMPTONANTHUS, A NEW GENUS OF THE COMPOSITAE WITH NOTES ON LASIOPOGON IN SOUTH AFRICA

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The generic limits within the subtribe *Gnaphaliinae* of the *Compositae-Inuleae* are often somewhat vague, especially in the group of genera related to the *Gnaphalium-Helichrysum* complex. The distinction between *Gnaphalium* and *Helichrysum* is a completely arbitrary one, but the two genera are generally upheld "for practical reasons" (cf. Hedberg 1957, p. 336, Levyns 1941, p. 84). Also, the genera *Leontonyx* and *Stenocline* are poorly defined against the *Gnaphalium-Helichrysum* complex (cf. Moeser 1909, p. 442, Merxmüller 1954, p. 434). Future monographers will have to decide upon the seemingly inevitable reclassifications. The proportion of the female florets to the perfect ones appears to be a quite useless character for generic distinctions in this group. The morphology of the pappus offers more reliable and constant characters. Thus, *Helipterum* is defined against *Helichrysum* by the plumose pappus, and the same character serves to distinguish *Lasiopogon* from the *Gnaphalium-Helichrysum* complex. The new genus *Comptonanthus*, described in this paper, is also mainly characterized by the pappus morphology. Two of the species of *Comptonanthus* have been known as *Lasiopogon* species, and the third one has remained undescribed until now. *Lasiopogon*, in the writer's opinion, comprises only two species, which will be dealt with in some detail in this paper.

In *Lasiopogon* the pappus bristles are amply feathered from the base with long and thin lateral branches. In sharp contrast to this pappus type stands the serrate, serrulate or barbellate pappus type of the *Gnaphalium-Helichrysum* complex, i.e., pappus bristles with very short lateral branches. In *Comptonanthus* the pappus bristles are smooth in the lower half (normally with a few delicate spreading basal hairs) and feathered in the upper half only. The lateral branches of the bristles are shorter and thicker than in *Lasiopogon* and have obtuse or rounded tips. It should be noted that a similar pappus type occurs in the genus *Ifloga*, under which name species of *Comptonanthus* are sometimes found in herbaria. However, these two genera are easily distinguished, since in *Ifloga* the marginal florets are subtended by paleae and lack a pappus.

An account of the new genus *Comptonanthus* is given below, with drawings and distribution maps, as well as some notes on the related genus *Lasiopogon* in South Africa. Part of the material in the following herbaria has been consulted (abbreviations in accordance with Lanjouw and Stafleu 1956), BOL, LD, M, NBG, PRE, SAM. The species of *Comptonanthus* were found under various generic names, viz., *Lasiopogon*, *Gnaphalium*, *Helichrysum*, *Leontonyx*, *Ifloga* (and *Trichogyne*), and among *Compositae incertae*.

Comptonanthus B. Nord. (*Compositae-Inuleae-Gnaphaliinae*) Gen. nov. affinis *Lasiopogon* Cass., sed pappo plumoso tantum in dimidio superiore, ramis minoribus crassioribus, apicibus obtuso-rotundatis, et capitulis minus condensatis in acervis globosis, tomento minus pleno.

Herbae annuae parvae. *Folia* alternata, integra, glabrata vel tomentosa, sessilia. *Capitula* parva, heterogama. *Involucri bracteae* 1—3-seriatae, marginibus apicibusque membranaceis vel scariosis. *Receptaculum* nudum, breve faveolatum. *Floruli marginales* feminei; corolla filiformis, glabra, apice minute dentata. Rami styli lineares, complanati, truncati. *Pappus* et *achaeia* con-similes eis florulorum hermaphroditum. *Floruli disci* hermaphroditi; corolla cylindrica, 5-lobata, glabra. Antherae caudatae, appendiculis ovatis. Rami styli lineares, complanati, truncati. *Achaeia* teretia, glabra, laevigata sed minute papillosa vel glandulosa. *Pappi* setae uniseriatae, paucae, caducae, in dimidio superiore plumosae.

Small annual *herbs*, usually many-stemmed from the base and $\pm$ decumbent, sometimes few-stemmed or simple and $\pm$ erect, glabrate or tomentose. *Leaves* alternate, sessile, flat or flattened, entire. *Peduncles* short or 0. *Capitula* small, campanulate or oblong or rounded, heterogamous, with filiform marginal female florets and tubular central perfect florets, the numerical proportions between the two kinds varying, arranged terminally in condensed clusters or sometimes more laxly disposed in elongated inflorescences, seldom solitary. *Involucral bracts* 1—3-seriate, outer bracts shorter, with membranous or scarious margins and tips, glabrous or tomentose. *Receptacle* nude, shallowly honey-combed, glabrous. *Female florets* 5—20. *Corolla* filiform, glabrous, minutely toothed or lobed at the apex. *Style* terete; branches linear, flattened, truncate, exserted or included. *Pappus* and *achenes* as in the perfect florets. *Perfect florets* few—many (up to c. 20). *Corolla* tubular, gradually widening above, glabrous, regularly 5-lobed. *Anthers* with an ovate obtuse appendage and filiform tails. *Style* terete with linear, flattened, truncate branches. *Achenes* terete, (narrowly) oblong—obovate, smooth or minutely papillate or glandular. *Pappus* bristles uniseriate, few (up to 10), caducous, erect, whitish, near the base with a few delicate spreading hairs, otherwise smooth in the lower half, in the upper half plumose with somewhat thickened obtuse branches.

TYPE SPECIES: *C. molluginoides* (DC.) B. Nord. comb. nov. Species 3, native of South and South West Africa.

KEY TO THE SPECIES OF *Comptonanthus*.

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| 1. Leaves mucronate. Involucral bracts acute—acuminate | 1. <i>C. molluginoides</i> |
| 1. Leaves obtuse, not mucronate. Involucral bracts obtuse—truncate. | |
| 2. White-woolly. Leaves herbaceous. Perfect florets few (1–5, seldom up to 10), purple-tipped | 2. <i>C. brachypterus</i> |
| 2. Glabrate or thinly tomentose. Leaves somewhat fleshy. Perfect florets 10–20, about equalling the female florets in number | 3. <i>C. subcarnosus</i> |

1. *Comptonanthus molluginoides* (DC.) B. Nord. comb. nov.

Lasiopogon molluginoides DC., Prodr. 6, p. 246 (1837).

L. micropoides DC. var. β .; Harvey in Fl. Cap. 3, p. 264 (1865).

Helichrysum scleranthoides S. Moore in Bull. Herb. Boiss., Sér. II, 4, p. 1016 (1904).

Annuals, branching from the base. *Stems* spreading on the ground, prostrate or decumbent, seldom suberect, up to 10 cm. long, laxly leafy or nude below, ending in condensed or elongated leafy inflorescences, loosely white- or grey-woolly, sometimes glabrate. *Leaves* linear—oblong, 2–7 mm. long, 0.3–1 mm. wide, flattened, herbaceous, loosely tomentose esp. on the adaxial side, sometimes glabrescent, distinctly mucronate. Leaf-margins often somewhat involute. *Capitula* cylindrical or narrowly campanulate, 2–3 mm. long, 1–2 mm. wide, fascicled in terminal rounded clusters surrounded by leaves, or more loosely grouped together in elongated inflorescences, sometimes solitary in leaf fascicles along the stems, sessile or shortly peduncled. *Involucral bracts* 10–15, 2–3-seriate, linear—lanceolate or narrowly oblong-ovate, 2–3 mm. long, 0.4–0.8 (—1) mm. wide (outer bracts distinctly shorter, often only $\frac{1}{2}$ the length), membranous, somewhat keeled and gibbous towards the base, pellucid or whitish—light brownish, glabrous, acute—acuminate. *Receptacle* $\pm$ flat, shallowly honey-combed. *Female florets* 5–10. *Corolla* tubular-filiform, slightly narrowed towards both ends, 1.5 mm. long, minutely 3–4-lobed at the apex. *Achenes* and *pappus* as in the perfect florets. *Perfect florets* 5–10. *Corolla* tubular, slightly widening above, c. 1.8 mm. long, sometimes purple-tipped. *Style* branches 0.2–0.3 mm. long, truncate. *Anthers* c. 1 mm. long incl. the ovate obtuse appendage and the filiform tails. *Achenes* narrowly obovate-oblong, 0.6–0.7 mm. long, glabrous, minutely papillate, yellowish or light brownish. *Pappus* bristles 7–10, c. 1.8 mm. long, basally with some delicate and spreading hairs, otherwise smooth in the lower half, distinctly plumose in the upper half.

TYPE. L. NAMAQUALAND, near Verleptpram, Drège (G-DC, *non vidi*).

FLOWERING PERIOD. Flowering specimens seen from most months, apparently flowering shortly after good rains.

PRIESKA. 8 miles E. of Marydale on road to Prieska, 28.viii.1963, *Hardy and Rau* 1565 (PRE).

HAY. 9.vii.1936, *Acocks* 508 (BOL,M,PRE); Lelyksstad, bank of Orange River, 19.vi.1938, *Acocks* 5746 (BOL).

KENHARDT. Jagbult, 9.v.1946, *Acocks* 12627 (PRE); Kakamas, Letterkop, 12.vii.1946, *Wasserfall* 1096 (PRE); 2 miles W. of Kenhardt, 29.ix.1952, *Acocks* 16996 (PRE); Aughrabies, 21.viii.1954, *Compton* 24469 (NBG).

L. NAMAQUALAND. Keuzabies, 18.v.1898, *M. Schlechter* 79 (BOL,PRE); N. of Annisfontein, ix.-x.1926, *Pillans* 5299 (BOL); 2 miles S. of Goodhouse, vii.1950, *Lewis* (SAM); 14 miles S. of Goodhouse, vii. 1950, *Lewis* (SAM); Goodhouse, 27.vii.1950, *Barker* 6261 (NBG); Near Ratelkraal, 7.ix.1950, *Compton* 22007 (NBG); 0.7 miles NE. of Oghrabies Poort, 29.x.1962, *Nordenstam* 1646 (LD); Holgat, ravine N. of the road, 30.x.1962, *Nordenstam* 1648 (LD); Richtersveld, 9 miles N. of Annisfontein, 2.xi.1962, *Nordenstam* 1729 (LD); Richtersveld, sandveld NW. of Dolomite Peaks, 5.xi.1962, *Nordenstam* 1793 (LD).

GORDONIA. Kalahari Gemsbok Park, 43 miles NNE. of Twee Rivieren, 16.iv.1960, *Leistner* 1830 (PRE); Kuruman River, 16 miles W. of Kuruman-Gordonia boundary, 18.x.1961, *Leistner* 2895 (M,PRE).

SOUTH WEST AFRICA. Kanibis-Aiais, lower Fish River, viii.1909, *Marloth* 3743 (PRE); Kanibis River, 20.ix.1909, *Range* 734 (SAM); Klein-Karas, x.1913, *Dinter* 3221 (SAM); Hoolog, bed of Great Fish River, 22.i.1916, *Pearson* 9803 (BOL); Aus, 16.vi.1922, *Dinter* 3655 (BOL,PRE,SAM); Buntfeldschuh, 7.ix.1922, *Dinter* 3767 (BOL,PRE,SAM); Klein-Karas, 4.viii.1923, *Dinter* 4743 (BOL,PRE,SAM); 5 km. E. of Buchuberge, 2.vii.1929, *Dinter* 6442 (BOL,M,PRE,SAM); Klein Karas, Groendoorn, 6.vi.1931, *Oertendahl* 676 (BOL,PRE); 15 miles N. of Grünau, 25.iv.1949, *Wilman* 295 (BOL); Near Ausweiche, Farm Klein Aus, 25.vi.1949, *Kinges* 2260 (M,PRE); Farm Weissenborn, 3.viii.1949, *Kinges* 2356 (M,PRE); 35 miles S. by W. of Narubis, 30.iv.1955, *Acocks* 18043 (PRE); 29 miles ESE. of Keetmanshoop on road to Narubis, 15.v.1955, *de Winter* 3551 (PRE); Haribes, 1956, *Volk* 12199 (M); Great Tigerberg, 1.viii.1950, *Kinges* 2644 (M); Farm Augustfelde, 10 miles NE. of Aus, 4.viii.1959, *Giess and v. Vuuren* 607 (M,PRE); Farm Klein Aus, 11.viii.1959, *Giess and v. Vuuren* 775 (BOL,M,PRE); 11 miles W. of Aus, 15.iv.1963, *Nordenstam* 2237 (LD); 2 miles N. of Aus, 17.iv.1963, *Nordenstam* 2259 (LD); Grootfontein Fläche W. of Maltahöhe, 15.viii.1963, *Merxmüller and Giess* 2803 (M); Namibfläche between Neisip and Eureka, 16.viii.1963, *Merxmüller and Giess* 2872 (M); Farm Swartpunt, 26.viii.1963, *Merxmüller and Giess* 3163 (M); 13 miles N. of Sendelingsdrift, 28.viii.1963, *Merxmüller and Giess* 3235 (M).

DOUBTFUL LOCALITY. LAINGSBURG. Near Ketting Station, 19.ix.1953, *Acocks* 17127 (PRE).

It is difficult to understand why Harvey (1865) included *Lasiopogon molluginoides* DC. as a variety under *L. micropoides* DC. The two species are easily separable even without examination of the pappus, and they are here put into different genera. There is little doubt, that *Helichrysum scleranthoides* S. Moore is a synonym to *Comptonanthus molluginoides*, although the present writer has not been able to examine the type material (*Dinter* 1242 and 1244 from Gubub, South West Africa).

Comptonanthus molluginoides is the longest known and most common species of the genus, and it is here chosen as the generic type. It occurs in South West Africa, Little Namaqualand, and Bushmanland, i.e., on both sides of the Orange River, as far inland as Prieska and Hay. The species prefers open sandy soil, where there is little competition from other vegetation.

Comptonanthus molluginoides is easily recognized by its narrow and mucronate leaves, and its acute or acuminate involucre bracts. In the arrangement of the capitula there is quite a variation from condensed rounded clusters, approaching the condition in *Lasiopogon*, to rather laxly fascicled or even solitary capitula along elongated flowering stems. The number of perfect florets sometimes exceeds the number of female florets, but the reverse condition is normally prevalent.

2. *Comptonanthus brachypterus* (O. Hoffm. ex Zahlbr.) B. Nord. comb. nov.
Lasiopogon brachypterus O. Hoffm. ex Zahlbruckner in Ann. Nat. Hofmus. Wien, xx, p. 57 (1905).

Erect or suberect white-woolly *annuals*, 1—5 cm. high, simple or little-branched below, often nearly stemless, seldom many-stemmed from the base and somewhat prostrate. *Leaves* linear—oblanceolate, 3—7 mm. long, 1 mm. wide or less, obtuse—subacute, herbaceous. Uppermost leaves often shorter and broader, spatulate—narrowly obovate, obtuse. *Capitula* small, 1·3—2 mm. long and wide, loosely grouped together apically on short lateral branches, surrounded by leaves, sometimes sessile and more condensed to clusters, but normally easily separable. *Involucre bracts* subuniseriate and subequal (sometimes a few shorter outer involucre bracts present), 10—13, linear, 1·3—2 mm. long, 0·2 mm. wide or less, with a coriaceous median portion and membranous—scarious margins, woolly for their greater length, with a glabrous, membranous, light brown, truncate or somewhat emarginate tip. *Receptacle* ± flat, shallowly honey-combed, glabrous. *Female florets* 10—20. *Corolla* filiform, c. 1 mm. long, purplish or red towards the tip. *Style* branches c. 0·1 mm. long. *Achenes* and *pappus* as in the perfect florets. *Perfect florets* few, 1—5 (seldom up to 10). *Corolla* tubular, slightly widening above, c. 1 mm. long, with red or purplish lobes. *Anthers* 0·4 mm. long incl. tails and the ovate obtuse appendage.

Style branches 0.2 mm. long, truncate. *Achenes* oblong, terete, 0.4 mm. long, glabrous, smooth, light brown.

TYPE. Sir Lowry's Pass—Palmietrivier, *Penther* 1145 (W, *non vidi*).

FLOWERING PERIOD. Mainly September—December.

PENINSULA. Over Woodhead Tunnel, 26.x.1897, *Wolley Dod* 3341 (BOL); Table Mountain, x.1918, *Pillans* 3208 (PRE); Klaver Valley, Simonstown, 10.xi.1933, *Salter* 3968 (BOL); Vlakkenberg, 17.x.1947, *Compton* 20178 (NBG); W. end of Table Mountain, 18.xi.1951, *Esterhuysen* 19242 (BOL,NBG,PRE); Table Mountain, Hout Bay Corner, 19.x.1952, *Esterhuysen* 20678 (BOL,PRE).

CALEDON. Steenbras River, 13.x.1894, *Schlechter* 5394 (BOL,SAM).

PAARL. Upper Witte River Valley, 27.ix.1953, *Esterhuysen* 21787 (BOL, PRE).

WORCESTER. Witteberg, Slanghoek Mountains, 13.xi.1949, *Esterhuysen* 16500 (BOL).

CERES. W. foot of Matroosberg, 27.xii.1952, *Esterhuysen* 20942 (BOL).

CLANWILLIAM. Krakadouw Peak, x.1936, *Thorne* (SAM); Cedarberg, Middleberg, 25.ix.1937, *Compton* 7065 (NBG); Algeria Forest Station, iii.1940, *Stokoe* (SAM); N. Cedarbergen, along path from Pakhuis to Heuningvlei, 19.x.1945, *Esterhuysen* 12062 (BOL); N. Cedarbergen, Koupoort, 22.x.1945, *Esterhuysen* 12141 (BOL); S. Cedarbergen, Sneeuwberg, 11.xii.1950, *Esterhuysen* 18082 (BOL); Wolfberg, 3.x.1952, *Esterhuysen* 20576 (BOL,PRE).

PIKETBERG. Kapiteins Kloof Mountain, 21.x.1935, *Pillans* 7990 (BOL); Twenty Four Rivers Mountains above Porterville, 23.x.1949, *Esterhuysen* 16187 (BOL).

VANRHYNSDORP. Giftberg, 13.x.1953, *Esterhuysen* 22008 (BOL,PRE), *Esterhuysen* 22039 (BOL,PRE).

L. NAMAQUALAND. Khamiesberg, Sneeuwkop, 14.x.1928, *Hutchinson* 880 (BOL).

This species is probably more common than the distribution map indicates. From the records available it has a western Cape distribution, from the Peninsula and Caledon Divisions northwards to the Giftberg, and there is one record from the Khamiesberg. The last-mentioned interval may prove to be real, but in many other areas the diminutive species has certainly been overlooked by collectors. Although the species is not a typical member of the fynbos vegetation, the distribution suggests a phytogeographical affinity to the Cape element.

Comptonanthus brachypterus occurs in disturbed or open soil, preferably in sandy and often damp patches, along streams, on rock ledges, and in shallow rock pans. The species prefers higher altitudes, being found up to 5,000 feet in the Cedarbergen. In the southern part of its distribution area, e.g., on the Peninsula, it sometimes occurs below 1,000 feet.

Comptonanthus brachypterus is a small annual, sometimes very dwarfish and nearly stemless. The white pubescence and the small flowerheads with the red- or purple-tipped florets are characteristic features, serving to distinguish the species from its congeners.

3. *Comptonanthus subcarnosus* B. Nord. sp. nov.

Plantae annuae ramis multis e basi, decumbentes vel interdum suberectae, glabratae vel tenuiter araneoso-villosae. *Folia* alternata, linearia—oblanceolata vel anguste oblongo-obovata apicem versus latiores, subcarnosa, obtusa, glabrata vel tenuiter araneosa. *Capitula* fasciculata, subsessilia vel breviter pedunculata. *Involucri bracteae* 2—3-seriatae; exteriores breviores, membranaceae, obtusae; interiores lineares, cum parti coriaceo basale, apicibus truncato-rotundatis saepe emarginatis. *Floruli feminei* 10—20 filiformes. *Floruli hermaphroditi* 10—20 cylindrici. *Pappi* setae 5—8, caducae, in dimidio superiore plumosae. *Achaenia* teretia, anguste oblonga, minute glandulosa.

Annuals with many stems from the base, decumbent—suberect, 1—8 cm. high, laxly leafy, glabrate or thinly cobwebby-tomentose esp. on the younger branches. *Leaves* alternate, linear—oblanceolate—narrowly oblong-obovate (the uppermost shorter, often obovate), 3—7 mm. long, 1—2 mm. wide, broadest near the tip, tapering to the base, somewhat fleshy, glabrate or thinly cobwebby-tomentose, obtuse. *Capitula* oblong or rounded, 2—3 mm. long, c. 2 mm. wide, arranged in terminal clusters surrounded by leaves, subsessile or shortly peduncled. *Involucral bracts* 15—20, 2—3-seriate, linear—narrowly oblong, 2—3 mm. long, 0.3—0.8(—1) mm. wide, glabrous, membranous, pellucid, whitish or greenish, with a coriaceous median portion in the lower half, with truncate—rounded often emarginate tips; outer shorter, membranous throughout, obtuse. *Female florets* 10—20. *Corolla* filiform, 1.5 mm. long, minutely 3—5-toothed at the apex. *Style* branches $\frac{1}{4}$ mm. long, truncate. *Achenes* and *pappus* as in the perfect florets. *Perfect florets* 10—20. *Corolla* tubular below, widening above, c. 1.8 mm. long. *Style* branches linear, $\frac{1}{4}$ mm. long, truncate. *Anthers* c. 0.8 mm. long incl. appendage and tails. *Achenes* narrowly oblong, terete, c. 0.4 mm. long, minutely glandular, brownish. *Pappus* bristles 5—8, 1.5—1.8 mm. long, smooth in the lower half, plumose in the upper half.

HOLOTYPE. VANRHYNSDORP, Holriver, *Nordenstam* 894 (LD).

FLOWERING PERIOD. July—October.

CERES. Ceres Karoo, 20.ix.1931, *Compton* 3786 (BOL); Ceres Karoo, 1.x.1932, *Compton* 4077 (BOL); Gansfontein, 26.viii.1935, *Compton* 5471 (NBG); Brewelsfontein Karoo Farm, 21.ix.1941, *Compton* 11819 (NBG).

VANRHYNSDORP. Knechts Vlagte, 16.vii.1896, *Schlechter* 8158 (BOL); Zout River Bridge between Vanrhynsdorp and Nieuwerust, 19.ix.1931, *Salter* 1388 (SAM); Knechts Vlake, 21.ix.1933, *Salter* 3841 (BOL); Knersvlakte,

Soutrivier, ix.1941, *Stokoe* (SAM); Knechts Vlake, 3.ix.1948, *Compton* 20872 (NBG); 4 miles N. of Holriver Bridge, 10.viii.1962, *Nordenstam* 894 (LD,UPS).

Comptonanthus subcarnosus is less pubescent than its congeners, being often glabrate or nearly glabrous. The lack of indumentum is compensated by another xerophytic feature: the leaves are somewhat carnosae. The species probably has a rather limited distribution. Hitherto it is known from Ceres Karoo and from Kners Vlake. In the type locality it grows in sandy patches of quartzite formations.

On some herbarium sheets was suggested that *Gnaphalium prostratum* Thunb. might be the same species. From a comparison between Thunberg's type and some of the present author's specimens (kindly performed by Mr. N. Lundqvist, Uppsala), it is evident that this is not the case. The two species differ, i.a., in the important pappus characters, *Gnaphalium prostratum* having the serrate pappus type typical of the *Gnaphalium-Helichrysum* complex.

Notes on *Lasiopogon* Cass. in South Africa

Since the genus *Comptonanthus* is easily confused with *Lasiopogon* a brief account of the latter genus in South Africa is given below. In habit the species of the two genera are often rather similar and also resemble some annual species of *Helichrysum* and *Gnaphalium* and the monotypic genus *Eriosphaera*. Examination of the pappus is necessary for a correct determination of a specimen. *Lasiopogon* comprises annuals with heterogamous heads and pappus bristles that are amply feathered from the base.

De Candolle (1837) recognized three species of *Lasiopogon*. Of these *L. molluginoides* was later sunk under *L. micropoides* by Harvey (1865), but in the present paper it is revived to specific level and transferred to *Comptonanthus*. Also the later described *L. brachypterus* falls under *Comptonanthus*. Thus there are only two species of *Lasiopogon*, both of which occur in South Africa.

KEY TO SPECIES OF *Lasiopogon*.

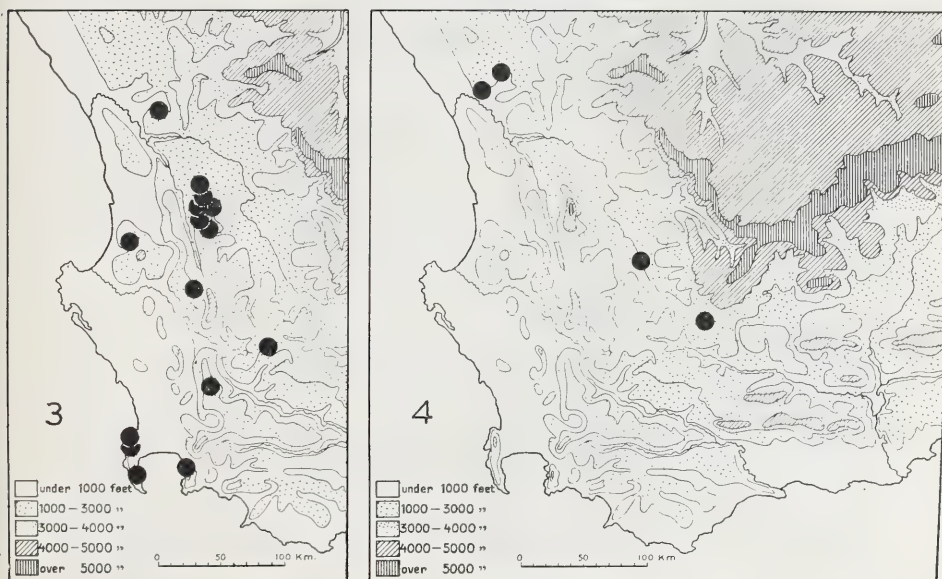
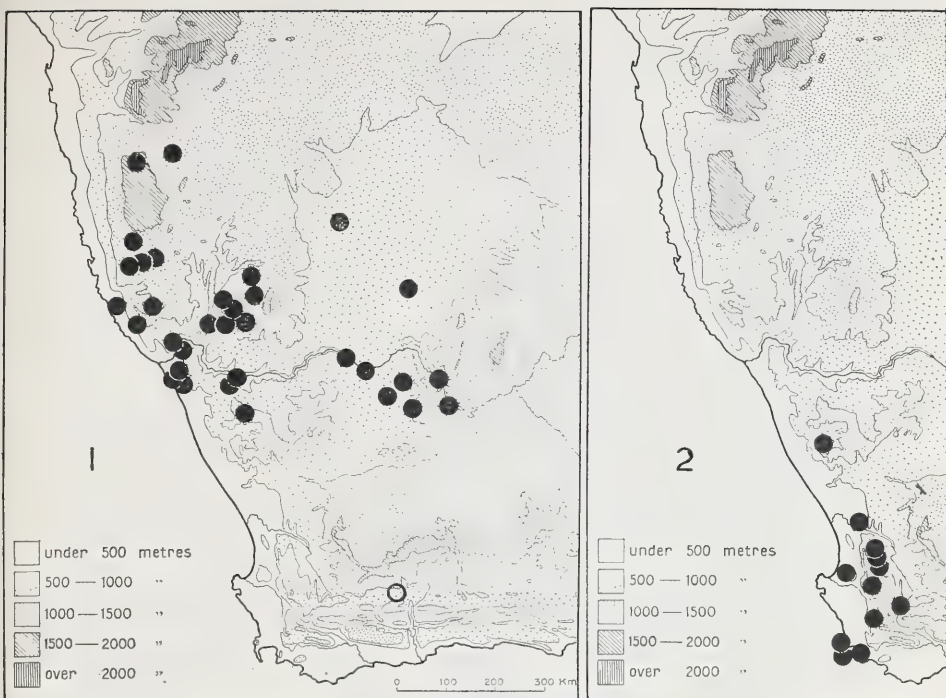
1. Female florets more numerous than the few (2—7) perfect florets. Pappus bristles with long and thin lateral branches throughout 1. *L. muscoides*
1. Perfect florets many (20—30), usually exceeding the female florets in number. Pappus tips with shorter and slightly thickened lateral branches. 2. *L. micropoides*

1. *Lasiopogon muscoides* (Desf.) DC.

De Candolle, Prodr. 6, p. 246 (1837); Harvey in Fl. Cap. 3, p. 265 (1865). *Gnaphalium muscoides* Desf., Fl. Atlant. 2, p. 267 (1799).

Lasiopogon lanatum Cass., Bull. Philom. 1818, p. 75 (1818).

Prostrate or decumbent *annuals*, copiously greyish- or brownish-woolly. *Leaves* spatulate or obovate—oblanceolate, obtuse. *Capitula* in dense rounded woolly clusters. *Involucral bracts* linear—narrowly oblong; margins and tips membranous, whitish or brownish; tips truncate or rounded, often emarginate



MAP 1. *Comptonanthus molluginoides*. O: doubtful locality. MAP 2. *C. brachypterus*. MAP 3. *C. brachypterus*, distribution in more detail (the Khamiesberg locality not included). MAP 4. *C. subcarnosus*.

or minutely toothed. *Female florets* numerous (20—40). *Corolla* filiform, c. 2 mm. long, minutely toothed at the apex. *Style* branches exserted, linear, c. 0·3 mm. long. *Perfect florets* few (2—7). *Corolla* tubular, slightly widening above, c. 2 mm. long. *Style* branches $\frac{1}{4}$ mm. long, truncate. *Anthers* c. 1 mm. long incl. appendage and tails. *Achenes* narrowly elliptic-oblong, 0·5 mm. long, glandular-papillate. *Pappus* bristles c. 10, 2 mm. long, finely plumose from the base; lateral branches thin, c. 1 mm. long.

FLOWERING PERIOD. Varying.

KOMGHA. *Flanagan* (NBG, p.p. *Gnaphalium glomerulatum* Sond.).

PEDDIE. Line Drift, xii.1900, *Galpin* 3974 leg. *Sim* (BOL).

ALBERT. Venterstad, vii.1918, *B. Rogers*, herb. Bolus. 15563 (BOL).

LAINSBURG. Baviaans River bed, Whitehill, 8.viii.1927, *Compton* 3269 (BOL); Whitehill, 18.viii.1941, *Compton* 11253 p.p. (NBG, most specimens are *Gnaphalium glomerulatum* Sond.).

CALVINIA. 28 miles N. of Calvinia, 25.ix.1952, *Maguire* 1953 (NBG); 20 miles NW. of Calvinia on Loeriesfontein road, 14.ix.1961, *Barker* 9496 (NBG).

L. NAMAQUALAND. Prope Port Nolloth, viii.1883, *Herb. Norm. Austr. Afr.* 425 leg. *Bolus* (BOL,SAM).

HERBERT. St. Clair, ix.1897, *Orpen* p.p. (SAM, p.p. *Gnaphalium glomerulatum* Sond.).

KURUMAN. Cotton End, vii.1940, *Forsyth* (BOL).

BECHUANALAND PROTECTORATE. Batlharos, xi.1920, *Silke*, herb. Bolus. 16579 (BOL).

SOUTH WEST AFRICA. Nautzerus, 1.viii.1949, *Strey* 2619 p.p. (M,SAM, p.p. *Leontonyx* sp.); Lekkerwater, 32 miles E. of Aranos, 26.iv.1960, *Giess* and v. *Vuuren* 1093 (M); Farm Swartpunt, 26.viii.1963, *Merxmüller* and *Giess* 3166 c (M).

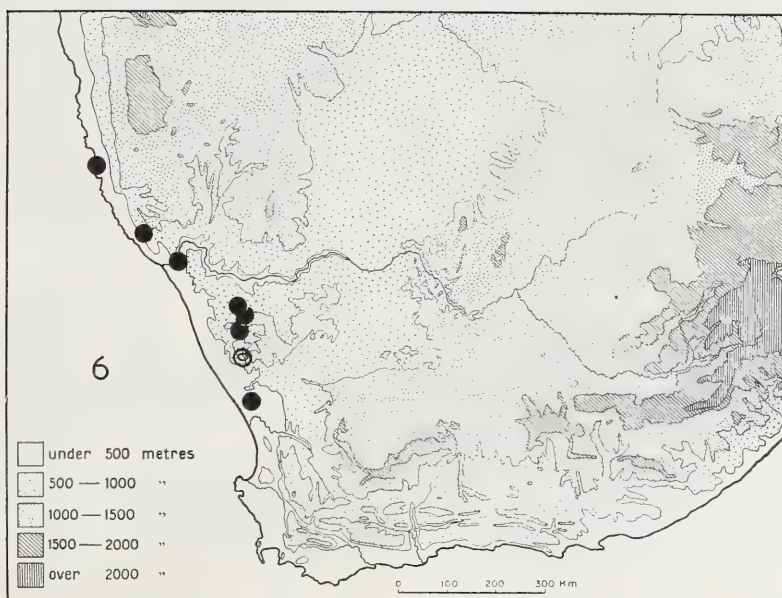
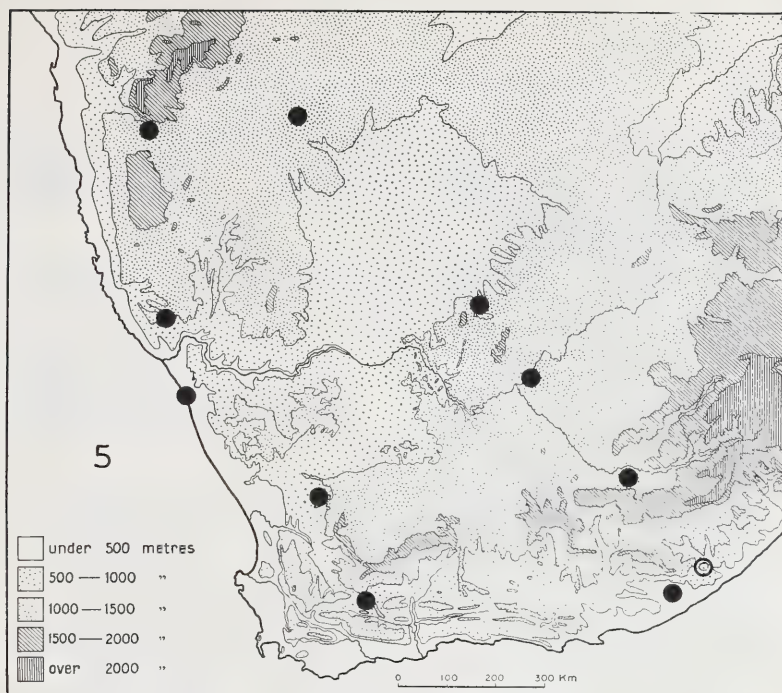
Lasiopogon muscoides is the type of the genus (Phillips 1951). The species is widely distributed throughout Africa, in southern Europe, and southern Asia as far east as India. Only South African localities are listed here.

2. *Lasiopogon micropoides* DC.

De Candolle, *Prodr.* 6, p. 246 (1837).

L. micropoides DC. var. *a*; Harvey in *Fl. Cap.* 3, p. 264 (1865).

Usually many-stemmed decumbent or prostrate *annuals*, copiously and loosely greyish- or brownish-woolly. *Leaves* obovate—spatulate, obtuse. *Capitula* in dense rounded woolly clusters. *Involucral bracts* linear; tips truncate or rounded, membranous, whitish. *Female florets* c. 10—20. *Corolla* filiform, c. 2 mm. long, minutely toothed at the apex. *Style* branches exserted, 0·3 mm. long, truncate. *Perfect florets* c. 20—30. *Corolla* tubular, widening above, 2—2·2 mm. long. *Style* branches c. $\frac{1}{4}$ mm. long, truncate. *Anthers* c. 1 mm. long



MAP 5. *Lasiopogon muscoides* in South Africa. MAP 6. *L. micropoides*. O: inexact locality.

incl. appendage and tails. *Achenes* narrowly elliptic-oblong, c. 0.5 mm. long, glandular-papillate. *Pappus* bristles 5—10, finely plumose from the base, c. 2 mm. long; lower lateral branches c. 1 mm. long or slightly more. apical branches shorter and somewhat thickened.

FLOWERING PERIOD. June—October.

VANRHYNSDORP. Kareeberg, 17.vii.1896, *Schlechter* 8169 (BOL).

L. NAMAQUALAND. Between Zilverfontein, Kooperbergen and Kaus, ix.,x., *Drège* (SAM); Concordia, 19.ix.1897, *Schlechter* 11321 (BOL); Zabies, 16.vi.1898, *M. Schlechter* 96 (BOL); Garies and Khamies Kroon. viii.1929, *L. Bolus* (BOL); Mesklip, 24.viii.1941, *Esterhuysen* 5837. 5959 (BOL); 2 miles NE. of Springbok, 8.ix.1950. *Compton* 22048 (NBG); 7½ miles NE. of Steinkopf, 25.vii.1957. *Acocks* 19382 (M); 1 mile E. of Arrisdrift. 31.x.1962. *Nordenstam* 1689 (LD).

SOUTH WEST AFRICA. Lüderitzbucht, ix., *Range* 1121 (SAM); 5 km. E. of Buchberge, 2.vii.1929, *Dinter* 6433 (BOL); Hills to Nautilus, Lüderitz, 16.vii.1950, *Kinges* 2635 (M); Lüderitzbucht, 28.v.1956. *Volk* 12833 (M); 1 mile S. of Lagoon, Lüderitz, 5.viii.1959, *Giess* and v. *Vuuren* 654 (BOL.M).

Lasiopogon micropoides is in habit often indistinguishable from *L. muscoides*. The most reliable distinction is provided by the proportion of the two kinds of florets, and there is also a difference in the tips of the pappus bristles (cf. fig. 1).

L. micropoides, contrary to the other species, is endemic to South Africa. It has a rather limited distribution in Vanrhynsdorp and L. Namaqualand Divisions and also occurs in southern South West Africa.

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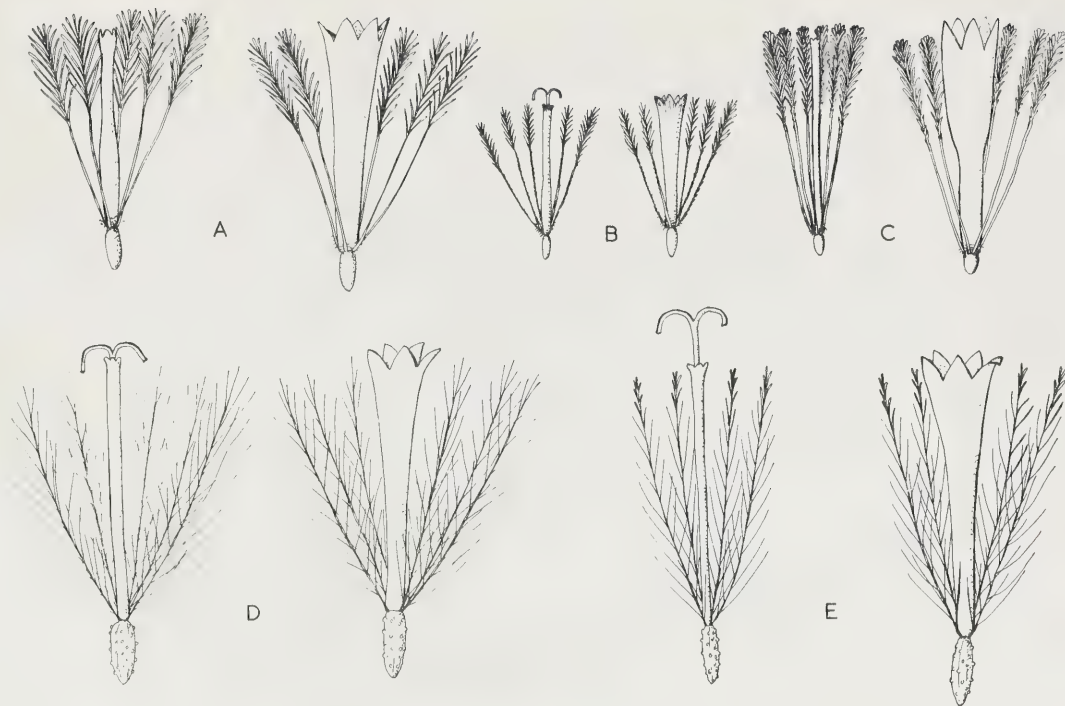


FIG. 1. Female (left) and perfect (right) florets, all $\times 20$. A *Comptonanthus molluginoides* (Barker 6261). B *C. brachypterus* (Esterhuysen 19242). C *C. subcarnosus* (Nordenstam 894). D *Lasiopogon muscoides* (Barker 9496). E *L. micropoides* (Compton 22048). Del. R. B. Nordenstam.